DO NOT ENTER: /S.K./

07/15/2010

PATENT APPLICATION

Attorney Docket: 1403-11 PCT US (OPP061167US)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Seung-Que LEE et al.	Art Unit :	2617
Serial No.:	10/583,792	Examiner:	KELLEY, Steven S.
Filed:	April 2, 2007	Date:	July 12, 2010

For: **WIRELESS INTERNET TERMINAL AND PACKET TRANSMISSION METHOD FOR IMPROVING QUALITY OF SERVICE**

Mail Stop A.F.
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT TRANSMITTAL FORM

Sir:

Transmitted herewith is an amendment in the above-identified application.

[ ] Small entity status of this application under 37 C.F.R. §§1.9 and 1.27 has been established by a verified statement previously submitted.

[ ] A verified statement to establish small entity under 37 C.F.R. §§1.9 and 1.27 is enclosed.

[X] No additional fee is required.

For	Claims Remaining After Amendment	Highest No. Previously Paid For	Present Extra	Rate (Small Entity)	Addit. Fee	Rate	Addit. Fee
TOTAL CLAIMS*	14	20	0	x 26 =	$0	x 52 =	$0
INDEPENDENT CLAIMS	3	3	0	x110 =	$0	x220 =	$0
[] First Presentation of Multiple Dep. Claim				195		390	$0

* If the entry in Col. 1 is less than entry in Col. 2, write "0" in Col. 3.
** If the "Highest No. Previously Paid for" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest No. Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The Highest No. Previously Paid For" (Total or indep.) is the highest number found in the appropriate box in Col. 1 of a prior amendment or the number of claims originally filed.

[ ] Please charge Deposit Account No. 50-4053 in the amount of $___. Two (2) copies of this sheet are enclosed.

[ ] A check in the amount of $__ is enclosed.

[X] Please charge any deficiency as well as any other fee(s) which may become due under 37 C.F.R. §§1.16 and/or 1.17 at any time during the pendency of this application, or credit any overpayment of such fee(s) to Deposit Account No. 50-4053. Also, in the event any extensions of time for responding are required for the pending application(s), please treat this paper as a petition to extend the time as required and charge Deposit Account No. 50-4053 therefor.

Respectfully submitted,

Paul J. Farrell
Reg No. 33,494
Attorney for Applicant(s)

THE FARRELL LAW FIRM, LLP
290 Broadhollow Road., STE 210 E
Melville, NY 11747
(516) 228-3565

DO NOT ENTER: /S.K./

07/15/2010

EXPEDITED HANDLING
AFTER FINAL RESPONSE
PATENT APPLICATION

Attorney Docket No: 1403-11 PCT US (OPP061167US)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Seung-Que LEE et al.

GROUP ART UNIT: 2617

APPLN NO: 10/583,792

EXAMINER: KELLEY, Steven S.

FILING DATE: April 2, 2007

DATED: July 12, 2010

FOR: **WIRELESS INTERNET TERMINAL AND PACKET TRANSMISSION METHOD FOR IMPROVING QUALITY OF SERVICE**

Mail Stop A.F.
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

RULE 116 AMENDMENT

Sir:

In response to the Final Office Action of the United States Patent and Trademark Office dated May 10, 2010, please enter the following amendments and consider the following remarks.

AMENDMENTS TO THE SPECIFICATION

1. (Previously Presented) An OFDMA-TDMA (Orthogonal Frequency Division Multiple Access-Time Division Multiple Access) based wireless Internet terminal comprising:

a QoS profile storing information about a QoS policy;

a first module, comprising:

a classifier for classifying data packets to be transmitted according to the QoS policy, and

a first priority controller that gives first priorities to the classified data packets according to the QoS policy; and

a second module, comprising:

a PDU maker for generating PDUs from the data packets given the first priorities, and

a second priority controller for determining second priorities of the PDUs according to characteristics of the data packets,

wherein the second module arranges the PDUs in an allocated bandwidth to transmit the PDUs.

2. (Currently Amended) The OFDMA-TDMA based wireless Internet terminal as claimed in claim 1, wherein the first module further includes an admission controller that determines admission or discard of the data packets after being classified by the classifier~~, and wherein the data packets classified by the classifier are data packets that are determined as admitted by the admission controller after being classified by the classifier~~.

3. (Previously Presented) The OFDMA-TDMA based wireless Internet terminal as claimed in claim 2, wherein the first module further includes a QoS queue storing the data packets classified by the classifier, and a priority queue storing data packets admitted by the admission controller based on their first priorities.

4. (Previously Presented) The OFDMA-TDMA based wireless Internet terminal as claimed in claim 1, wherein the first module is constructed in a MAC layer by software.

5. (Original) The OFDMA-TDMA based wireless Internet terminal as claimed in claim 1, wherein the second module includes a sorting queue sequentially storing the PDUs based on priorities assigned by the second priority controller.

6. (Previously Presented) The OFDMA-TDMA based wireless Internet terminal as claimed in claim 5, wherein the PDUs are MAC PDUs, and the second priority controller gives the second priories to the MAC PDUS in the order of an ACK packet, a management message packet and a user data packet independently from the QoS profile.

7. (Original) The OFDMA-TDMA based wireless Internet terminal as claimed in claim 6, wherein the second module is constructed in a MAC layer by hardware.

8. (Currently Amended) A packet processing method in a wireless Internet terminal, comprising:

classifying and storing data packets based on a QoS policy;

providing first priories to the data packets classified based on the QoS policy;

storing the data packets given the first priorities in a queue and sequentially outputting the data packets based on their first priories;

providing second priorities to the data packets outputted from the queue based on characteristics of the data packets given ~~provided~~ the first priorities independently of the QoS policy; and

sequentially sorting the data packets based on the second priorities to arrange the data packets in an allocated bandwidth.

9. (Original) The packet processing method as claimed in claim 8, further comprising determining admission or discard of the classified data packets.

10. (Previously Presented) The packet processing method as claimed in claim 9, wherein the classifying and storing data packets, the determining admission or discard of the classified data packets and the providing of the first priories to the classified data packets are executed by software, and the provided second priorities to the data packets and the arranging the data packets are executed by hardware.

11. (Original) A recording medium storing a program used for a wireless terminal that gives first priories to data packets based on a QoS policy, gives second priories to the data packets based on packet information of the data packets given the first priories and uplink-transmits the data packets, the recording medium comprising:

storing the QoS policy as a QoS profile;

classifying and storing the data packets based on the QoS policy;

determining admission or discard of the classified data packets; and

providing the first priorities to data packets allowed to be admitted according to the QoS policy.

12. (Previously Presented) The OFDMA-TDMA based wireless Internet terminal as claimed in claim 2, wherein the classified data packets are admitted or discarded according to at least one of an available traffic state and the QoS policy.

13. (Previously Presented) The packet processing method as claimed in claim 9, wherein the classified data packets are admitted or discarded according to at least one of an available traffic state and the QoS policy.

14. (Previously Presented) The recording medium as claimed in claim 11, wherein the classified data packets are admitted or discarded according to at least one of an available traffic state and the QoS policy.

REMARKS

In the Final Office Action, Claims 2 and 8-10 were rejected under 35 U.S.C. §112, second paragraph as being indefinite; and Claims 1-14 were rejected under 35 U.S.C. 103(a) as being 35 U.S.C. 103(a) as being unpatentable over Edwards et al. (U.S. Patent 7,461,164) in view of Baiocchi et al. (IP QoS Delivery in a Broadband Wireless Local Loop: MAC Protocol Definition and Performance Evaluation, IEEE Journal on Selected Areas in Communication, Vol. 18, No. 9, September 2000).

Claims 2 and 8 are amended. No new matter is introduced.

Claims 1-14 are pending in the application.

Regarding the rejection of Claims 2 and 8-10 under §112, second paragraph, the Examiner states that the claims are indefinite.

With respect to Claim 2, the Examiner alleges that "wherein the data packets classified by the classifier are data packets that are determined as admitted by the admission controller after being classified by the classifier" is indefinite. The amendment to Claim 2 made herein recites that the first module further includes an admission controller that determines admission or discard of the data packets after being classified by the classifier. It is submitted that the amendment to Claim 2 overcomes the rejection of Claim 2 under §112, second paragraph.

With respect to Claim 8, the Examiner alleges that "providing second priorities to the data packets based on characteristics of the data packets provided the first priorities independently of the QoS policy" is indefinite. As a threshold matter, the Examiner's statement regarding Claim 8 is unfounded. Claim 8 recites that first priorities are provided based on QoS. The claims recite providing data packets with two separate and distinct priority levels. The second priorities are not based on QoS. The first and second priorities are provided in separate and distinct operations resulting in two separate and distinct priorities provided to the data packets. Nonetheless, the amendment to Claim 8 made herein recites providing second priorities to the data packets based on characteristics of the data packets independently of the QoS policy. It is submitted that the amendment to Claim 8 overcomes the rejection of Claim 8, as well as Claims 9-10, under §112, second paragraph.

Regarding the rejection of independent Claims 1, 8 and 11 under §103(a), the Examiner

alleges that the combination of Edwards and Baiocchi renders the claims unpatentable.

Each of Claims 1, 8 and 11 recite, in one form or another, a terminal that provides first priorities to classified data packets and provides second priorities to PDUs. For example, in Claim 1, the terminal includes a first module that corresponds to a MAC software unit and provides first priorities to the classified data packets and a second module that corresponds to a MAC hardware unit and provides second priorities for PDUs.

Initially it is noted that it does not appear that the Examiner is addressing in the Response to Arguments section of the Office Action the arguments presented in the prior amendment. It is requested that the Examiner fully address the arguments.

With respect to Claim 1, this claim recites two priority controllers, a first priority controller that gives first priorities to classified data packets according to the QoS policy, and a second priority controller for determining second priorities of PDUs according to characteristics of the data packets. Thus, in Claim 1, the terminal sets two different priorities; one based on a QoS policy for data packets and one based on characteristics of the data packets for PDUs. The PDUs are constructed from the data packets. The Examiner alleges that Edwards teaches these features.

In col. 9, lines 8-40, Edwards teaches a hardware-based MAC component and a software-based MAC component. Both the hardware-based MAC component and the software-based MAC component operate on packets; no operations on PDUs are disclosed. Although Baiocchi teaches generating PDUs, the combination would only produce a system that continues to operate Edwards' hardware-based and software-based MAC components on packets.

With respect to Claim 8, this claim recites providing first and second priorities. The first priorities are provided to data packets classified according to a QoS policy. The second priorities are provided data packets sequentially output according to the first priorities; the second priorities are not a QoS policy priority. The Examiner alleges that Edwards teaches these features.

Again, Edwards teaches a hardware-based MAC component and a software-based MAC component. Edwards does not specifically teach or disclose that second priorities are provided data packets sequentially output according to the first priorities. Baiocchi does not cure the

defects of Edwards.

With respect to Claim 11, this claim recites that packets are classified and stored based on a QoS policy; it is then determined whether to admit or discard the packets, then, only the admitted packets are provided a priority. The Examiner alleges, "'classifying' and 'determining admission or discard of the classified data packets' must inherently be present in Edwards (although not explicitly mentioned)." Inherency can only be used for matters that are undisputed. See, e.g. MPEP §2112. Edwards could be a system that admits all packets all the time or could be a system that discards all packets all the time; thus "determining admission or discard of the classified data packets" is not inherent in Edwards.

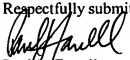
For at least the above reasons, the rejections must be withdrawn. In addition, it must be considered that the present invention provides the first priorities to data packets based on a QoS policy and then provides the second priorities to the data packets, which are provided with the first priorities, based on characteristics of the data packets. Edwards, however, only discloses that a software MAC component provides a priority to a packet and selectively writes the packet in a queue according to the priority, and a hardware MAC component stores the packet from the queue to one of transmission queues that are provided with priorities.

As indicated above, Edwards only transmits a packet from one of the transmission queues that are provided with priorities while the preset invention provides the second priorities to the data packets, which are provided with the first priorities, based on the characteristics of the data packets and sorting the data packet based on the second priorities. Therefore, Edward fails to disclose or suggest providing a priority to a data packet that has been already provided with another priority, based on the character of data packet. The amendment to Claim 8 clarifies these features of the present invention.

For the above reasons, independent Claims 1, 8 and 11 are believed to be in condition for allowance. Without conceding the patentability of the dependent claims *per se*, Claims 2-7, 9 and 10 are patentable and allowable for at least the same reasons as set forth above for independent Claims 1, 8 and 11.

Accordingly, all of the claims pending in the Application, namely, Claims 1-14 are believed to be in condition for allowance. Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact Applicants' attorney at the number given below.

Respectfully submitted,



Paul J. Farrell
Reg. No. 33,494
Attorney for Applicant(s)

THE FARRELL LAW FIRM, LLP
290 Broadhollow Road, Suite 210E
Melville, New York 11747
Tel: (516) 228-3565